

CLAIMS

1. An image forming apparatus that forms an image on an image carrier based on input image data and transfers the image to a transported sheet, forming an image on this sheet, the image forming apparatus comprising:

a detecting means for detecting the edge position of the sheet transported toward a transfer point where the image formed on the image carrier is transferred to the sheet, the detecting means being provided upstream in the sheet transport direction relative to the transport point, and

wherein when the size of the image on the image carrier is larger than the size of the sheet transported toward the transfer point, the size of the image on the image carrier to be transferred to the midstream of the sheet after detection of the sheet edge position by the detecting means is changed, based on the detection results from the detecting means, and

subsequent image formation to the sheet continues to be performed according to this image on the image carrier whose size has been changed.

2. The image forming apparatus according to claim 1, wherein the image formed on the image carrier before detection of the sheet edge position by the detecting means is set to a large size provided with a margin in consideration of transport shift of the sheet transported toward the transfer point.

3. The image forming apparatus according to claim 1, wherein the detecting means is provided further downstream than a registration means for correcting transport tilt of the sheet before detection of the sheet edge position by this detecting means, and adjusting the position of the image on the image carrier relative to the sheet.

4. The image forming apparatus according to claim 1, wherein the distance from the detection point by the detecting means to the transfer point is set to be shorter than the distance from the writing point of the image onto the image carrier to the transfer point,
- the size of the image formed on the image carrier before detection of the sheet edge position by the detecting means is set based on data prescribed in advance, and
- the size of the image formed on the image carrier after detection of the sheet edge position by the detecting means is changed based on the detection results of the detecting means.
5. The image forming apparatus according to claim 1, further comprising a plurality of image carriers that individually form an image on the sheet, arranged in parallel in the transport direction of a sheet carrier that carries and transports the sheet,
- wherein the size of the image on the image carrier located furthest upstream in the sheet transport direction among the image carriers is changed during image formation after detection of the sheet edge position by the detecting means, and
- the size of the image on the other image carriers is changed before image formation based on the results of detecting the sheet edge position with the detecting means.
6. The image forming apparatus according to claim 5, wherein there is correction data for one among the various image carriers that corrects image forming positional shift of the remaining image carriers relative to that one image carrier, and
- the size of the image formed on the respective image carriers is set based on the results of detecting the sheet edge position with the detecting

means and the correction data.

7. The image forming apparatus according to any of claims 1 through 6,
wherein the magnification or position where the image is formed on the
5 image carrier is set based on data prescribed in advance regardless of the
results of detecting the sheet edge position with the detecting means.

8. The image forming apparatus according to any of claims 1 through 6,
wherein a borderless image forming mode for forming a borderless image on
10 the sheet can be selected, and

wherein when this borderless image forming mode is selected,
image formation is performed based on the results of detecting the sheet
edge position with the detecting means.

15 9. The image forming apparatus according to claim 1, wherein when
the size of the image on the image carrier is larger than the size of the sheet
transported toward the transfer point, the skew state of the sheet is also
detected by detecting the sheet edge position with the detecting means, and
the size of the image on the image carrier to be transferred to the
20 midstream of the sheet after that detection is changed based on the results
of detecting the edge position and skew state of the sheet with the detecting
means, and

wherein subsequent image formation to the sheet continues to be
performed according to this image on the image carrier whose size has been
25 changed.

10. The image forming apparatus according to claim 9, wherein the
image formed on the image carrier before detection of the edge position and
skew state of the sheet by the detecting means is set to a large size provided
30 with a margin in consideration of transport shift of the sheet transported

toward the transfer point.

11. The image forming apparatus according to claim 9, wherein the detecting means is provided further downstream in the sheet transport direction than a registration means that adjusts the position of the image on the image carrier relative to the sheet before detection of the edge position and skew state of the sheet by the detecting means.

12. The image forming apparatus according to claim 9, wherein the distance from the detection point by the detecting means to the transfer point is set to be shorter than the distance from the writing point of the image onto the image carrier to the transfer point,

the size of the image formed on the image carrier before detection of the edge position and skew state by the detecting means is set based on data prescribed in advance, and

the size of the image formed on the image carrier after detection of the edge position and skew state of the sheet by the detecting means is changed based on the results of detecting the edge position and skew state of the sheet with the detecting means.

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13. The image forming apparatus according to claim 9, wherein the distance from the detection point by the detecting means to the transfer point is set to be shorter than the distance from the writing point of the image onto the image carrier to the transfer point,

the size of the image formed on the image carrier is set based on the results of detecting the sheet edge position with the detecting means, and

when the skew state of the sheet has been detected by the detecting means, the size of the image formed on the image carrier after that detection is changed based on the results of detecting the skew state of the sheet.

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14. The image forming apparatus according to claim 9,
further comprising a plurality of image carriers that individually form an
image on the sheet, arranged in parallel in the transport direction of a sheet
5 carrier that carries and transports the sheet, and

wherein the size of the image on the image carrier located furthest
upstream in the sheet transport direction among the image carriers is
changed after image formation has begun based on the results of detecting
the edge position and skew state of the sheet with the detecting means, and
10 the size of the image on the other image carriers is changed before
image formation begins based on the results of detecting the edge position
and skew state of the sheet with the detecting means.

15. The image forming apparatus according to claim 13 or 14, wherein
15 there is correction data for one among the various image carriers that
corrects image forming positional shift of the remaining image carriers
relative to that one image carrier, and

the size of the image formed on the respective image carriers is set
based on the results of detecting the edge position and skew state of the
20 sheet with the detecting means and the correction data.

16. The image forming apparatus according to any of claims 9 through
14, wherein the magnification or position where the image is formed on the
image carrier is set based on data prescribed in advance regardless of the
25 results of detecting the edge position and skew state of the sheet with the
detecting means.

17. The image forming apparatus according to any of claims 9 through
14, wherein a borderless image forming mode for forming a borderless
30 image on the sheet can be selected, and

wherein when this borderless image forming mode is selected, image formation is performed based on the results of detecting the edge position and skew state of the sheet with the detecting means.